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09/307,357	05/07/1999	MICHAEL A. PESHKIN	98.609	4714

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EXAMINER

THOMPSON, JEWEL VERGIE

ART UNIT	PAPER NUMBER
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2855

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/307,357

Applicant(s)

PESHKIN ET AL.

Examiner

Jewel V Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 20-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### Election/Restriction

1. Applicant's election without traverse of Election in Paper No. 9 is acknowledged.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 and 4-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al (5,555,004) in view of Armstrong (6,285,356).

**Regarding claim 1**, Ono et al teaches the aspects of the claimed invention, a force sensor measuring applied forces, comprising: a first member (21); a second member (4A), wherein the first member is positioned nearby to the second member (fig. 5); a flexure (17), the flexure connecting the first member and the second member (fig. 5), wherein the flexure supports the first member with respect to the second member and allows the first member to move relative to the second member along two axes (col. 7, lines 50-59). Ono et al fails

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to teach a readout mechanism measuring the displacement of the first member relative to the second member, wherein the applied forces are determined from the displacement of the first member relative to the second member. Armstrong teaches a displacement joystick comprising sensors (42) for detecting direction and magnitude of force applied to an arm (abstract). It would have been obvious to one skilled in the art at the time that the invention was made to have placed the sensors of Armstrong in the control device of Ono et al for the purpose of detecting the applied force in the joystick.

**Regarding claim 2**, Ono et al teaches the first member comprises an inner member and the second member comprises an outer member (fig. 5)

**Regarding claim 4**, Ono et al fails to teach the readout mechanism comprising an inductive readout device. Armstrong teaches a displacement joystick with compression sensitive sensors, which are inductive (42). It would have been obvious to one skilled in the art at the time that the invention was made to have used the sensors of Armstrong in the device of Ono et al for the purpose of detecting direction and magnitude of force applied to an arm.

**Regarding claims 5 and 6**, Ono et al teach a graspable handle (20), the graspable handle is integrally formed with the first member (21) and (fig. 5)

**Regarding claim 7**, Ono et al teaches a printed circuit board comprising the readout mechanism, the printed circuit board (12) positioned on one of the members (21) and reading the relative displacement of the two members

**Regarding claim 8**, Ono et al teach a plurality of strips of material of substantially equal dimensions, wherein the strips of materials (17, 17(2)) are adapted to connects to teach other to form the flexure (fig. 8)

**Regarding claims 9 and 10**, Ono et al fails to teach the strips of material have an aspect ratio of approximately 30:1 and are formed in an L-shape.

Although Ono et al does not explicitly teach that the strips are L-shaped or the material have an aspect ratio of approximately 30:1, it would have been obvious to one skilled in the art at the time that the invention was made to have merely modified the shape of the component as well as discover the workable range which only involves routine skill in the art for the purpose of providing a material which when flexed will provide a measurement of the force on the material (M.P.E.P. 2144.04)

**Regarding claim 11**, Ono et al teaches the flexure comprises a plastic material (col. 7, lines 23-25)

**Regarding claim 12**, Ono et al fails to teach the flexure comprises a spring steel material. Armstrong teaches a spring (28) and (col. 7, lines 46-55). It would have been obvious to one skilled in the art at the time that the invention was made to have used the spring of Armstrong in the device of Ono et al for the purpose of supporting and restraining the arm when it is displaced.

**Regarding claim 15**. Ono et al fails to explicitly teach that the first and second strips of material are formed into L-shaped strips of material. However, Ono et al does teach the flexure strip (17). It would have been obvious to one skilled in the art at the time that the invention was made to have merely modified

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the shape of the component which only involves routine skill in the art for the purpose of providing a material which when flexed will provide a measurement of the force on the material. (M.P.E.P 2244.04)

**Regarding claim 17**, Ono et al fails to teach the flexure comprises a spring steel material. Armstrong teaches a spring (28) and (col. 7, lines 46-55). It would have been obvious to one skilled in the art at the time that the invention was made to have used the spring of Armstrong in the device of Ono et al for the purpose of supporting and restraining the arm when it is displaced.

**Regarding claim 18**, Ono fails to explicitly teach the dimensions of the L-shaped strips of material comprise length L, thickness t, and height or depth w, determine the compliance of the flexure. Measuring the dimensions of the strip would give values for L, t, and w. It would have been obvious to one skilled in the art at the time that the invention was made to have taken the measurements of the strip for the purpose of providing an accurately fitting flexure

**Regarding claim 19**, the width w of the strip of material is approximately 30 times the thickness t of the material. It would have been obvious to one skilled in the art at the time that the invention was made to have to have modified the size of the strip material to 30 times the thickness of the material, since such a modification would have involved a mere change in the size of a component, for the purpose of fitting the strip material in the and around the first and second members (M.P.E.P. 2144.04)

***Claim Rejections - 35 USC § 103***

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al in view of Armstrong and further in view of Couch et al (6,033,309).

**Regarding claim 3**, Ono et al in view of Armstrong fails to teach the readout mechanism comprises an optical electronic device. Couch et al teaches a control pad wherein the LED's (24a) and the photodiodes (24b) detect motion in the joystick and generate an electric current directly in proportion to the amount of incident light (col. 5, lines 9-12). It would have been obvious to one skilled in the art at the time that the invention was made to have used the LED's and photo-detectors of Couch et al in the control device of Ono et al for the purpose of illuminated the amount of tilt is being processed by the joystick (col. 5, lines 55-68)

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13, 14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Ono et al.

**Regarding claim 13**, Ono et al teaches the aspects of the claimed invention, a flexure capable of complying with the applied forces, comprising a first strip of material (17), and a second strip of material (17(2)), wherein the first strip of material is adapted to connect to the second strip of material to form the flexure element (fig. 8), and the flexure element is connected to a first member (21) and a second member (14A) to allow a relative displacement between the first member and the second member and the first and second strip of material have a width that is at least twice its thickness (fig. 8)

**Regarding claim 14**, Ono et al teaches that the first and second strips of material comprise substantially equal dimensions (fig. 8)

**Regarding claim 16**, Ono et al teaches the flexure comprises a plastic material (col. 7, lines 23-25)

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


5,973,471 Miuri et al teaches a control joystick


5,129,265 Bartels et al teaches a multi-directional force sensor

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jewel V Thompson whose telephone number is 703-308-6726. The examiner can normally be reached on 7-4:30, off alternate Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 703-305-4816. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3432 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1134.

  
jvt  
April 25, 2003

  
EDWARD LEFKOWITZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800